REMARKS

Claims 1- 26 are pending.

This Preliminary Amendment makes editorial revisions to the specification.

An Information Disclosure Statement and PTO-1449 directed to the art of record in the parent case are submitted herewith.

Early and favorable consideration of this application are respectfully requested.

Respectfully submitted,

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ATTACHMENT I - Marked up Claims

1. (Amended) Process for the wall ironing of a product in sheet form, which is formed from a metal sheet coated on at least one side with a layer of plastic, comprising

moving the product with a plastic coating layer in a direction of movement along a forming surface of a [the] wall-ironing tool [comprising a forming surface which the product with a plastic coating layer moves along] during the wall ironing, [and] the forming surface being at an entry angle with respect to the direction of movement of the product, [characterized in that]

wherein the entry angle varies over the length of the forming surface, in the direction of movement of the product past the forming surface, this entry angle being smaller in a starting zone of the forming surface than in the subsequent zone thereof.

2. (Amended) Process according to Claim 1, [characterized in that] wherein the forming surface in an end zone is again at a smaller entry angle than in the intermediate zone.

3. (Amended) Process according to Claim 1 [or 2], [characterized in that] wherein the forming surface, following the zone with the largest entry angle, comprises a so-called land zone, with an entry angle = 0°.

4. (Amended) Process according to Claim 2 [or 3], [characterized in that] wherein the entry angle has a fixed value in each of the zones.

5. (Amended) Process according to Claim 2 [or 3], [characterized in that] wherein there is a smooth change in the entry angle over the length of the forming surface.

6. (Amended) Process according to Claim 5, [characterized in that] wherein the transitions between successive zones, and/or such zones themselves run in the form of an arc of a circle.

7. (Amended) Process according to [one of the preceding claims] Claim 1, [characterized in that] wherein the wall-ironing tool comprises a plurality of forming surfaces.

8. (Amended) Process according to Claim 1 [one of the preceding claims], [characterized in that] wherein the wall-ironing tool comprises a plurality of wall-ironing rings.

9. (Amended) Process according to Claim 1 [one of the preceding claims], [characterized in that] wherein 60 to 90% of the total wall thinning is produced by the corresponding forming surface in the zone running at the largest entry angle, the so-called main zone.

10. (Amended) Process according to Claim 9, [characterized in that] wherein 10 to 30% of the total wall thinning is produced by the corresponding forming surface in the starting zone.

11. (Amended) Process according to Claim 9 [or 10], [characterized in that] wherein less than 30% of the total wall thinning is produced by the corresponding forming surface in the end zone.

12. (Amended) Process according to Claim 1 [one of the preceding claims], [characterized in that] wherein the length of the starting zone and/or of the end zone, under otherwise identical conditions, is set in such a way that the plastic coating is not torn off the metal sheet as a result of the wall ironing.

13. (Amended) Process for the wall ironing of a product in sheet form, which is formed from a metal sheet coated on at least one side with a layer of plastic, comprising

moving the product with a plastic coating layer in a direction of movement along a forming surface of a [the] wall-ironing tool [comprising a forming surface which the product with a plastic coating layer moves along] during the wall ironing, [and] the forming surface being at an entry angle with respect to the direction of movement of the product, [characterized in that,]

wherein in a zone of the forming surface which runs at the largest entry angle, the plastic layer is held under an elevated pressure P_0 (in MPa) on all sides, and [that] the plastic used for the coating layer is characterized by values of the parameters μ (no units); τ_0 (in MPa) and A_0 (in sec), [as defined in the description,] which are as follows:

$\mu \geq 0.03$; $\tau_0 \geq 0.60$ and $A_0 \geq 2.0 \times 10^{19}$.

14. (Amended) Process according to Claim 13, [characterized in that] wherein the parameters μ, τ_0 and A_0 are as follows: $\mu \geq 0.047$; $\tau_0 \geq 0.90$ and $A_0 \geq 3.0 \times 10^{19}$.

15. (Amended) Process according to Claim 13 [or 14], [characterized in that] wherein the plastic used is also characterized by values for the parameters $T_{g,\ 1\ atm}$ and $T_{g,\ 600MPa}$ (in °C) [, as defined in the description,] which are as follows: $T_{g,\ 1\ atm} \geq 30°C$, and $T_{g,\ 600MPa} \geq 200°C$.

16. (Amended) Process according to Claim 15, [characterized in that] wherein the parameter $T_{g,\ 1\ atm}$ is as follows: $T_{g,\ 1\ atm} \geq 70°C$.

17. (Amended) Wall-ironing tool[, in particular] comprising a wall-ironing ring, comprising a forming surface, along which a sheet-like product can be moved in a direction of movement during the wall ironing, which forming surface is at an entry angle with respect to the direction of movement of the product, [characterized in that] wherein the entry angle varies over the length of the forming surface, in the direction of movement of the product, this angle being smaller in a starting zone of the forming surface than in the subsequent zone thereof.

18. (Amended) Wall-ironing tool according to Claim 17, [characterized in that] wherein the subsequent zone is an intermediate zone and the forming surface further comprises [in] an end zone subsequent to the intermediate zone which is again at a smaller entry angle than in the intermediate zone.

19. (Amended) Wall-ironing tool according to Claim 17 [or 18], [characterized in that] wherein the forming surface further comprises an end zone, subsequent to the intermediate zone, and between the intermediate zone and the end zone there is a land zone with a length of between 0.3 and 1.5 mm.

20. (Amended) Wall-ironing tool according to one of [Claims 17-19] Claim 17, [characterized in that] wherein the entry angle has a fixed value in each of the zones.

21. (Amended) (Amended) Wall-ironing tool according to [one of Claims 17-19] Claim 17, [characterized in that] wherein there is a smooth change in the entry angle over the length of the forming surface.

22. (Amended) Wall-ironing tool according to Claim 21, [characterized in that] wherein the transitions between successive zone, and/or the zones themselves, run in the form of an arc of a circle with a radius of a length of between 0.1 and 10 mm.

23. (Amended) Wall-ironing tool according to [one of Claims 17-22] Claim 17, [characterized in that] wherein the [main] zone having the largest entry angle, which is named a main zone, forms between 60 and 90% of the transverse dimension of the forming surface, transversely with respect to its longitudinal direction.

24. (Amended) Wall-ironing tool according to Claim 23, [characterized in that] wherein the starting zone forms between 10 and 30% of the transverse dimension of the forming surface.

25. (Amended) Wall-ironing tool according to Claim 23 [or 24], [characterized in that] further comprising an end zone, subsequent to the intermediate zone, wherein the end zone forms less than 30% of the transverse dimension of the forming surface.

26. (Amended) Wall-ironing tool in the form of a wall-ironing ring, according to [one of Claims 17-25] Claim 17, [characterized in that] wherein this wall-ironing ring is under a radial prestress on its outer circumferential surface, due to a strip or wire which has been wound around [it] the ring under stress.

ATTACHMENT II - Marked up Specification Pages